Transylvania County Comprehensive Transportation Plan (CTP) Meeting #6

NCDOT Transportation Planning Division (TPD)

Daniel Sellers, PE

Land of Sky Rural Planning Organization (LOSRPO)

Vicki Eastland





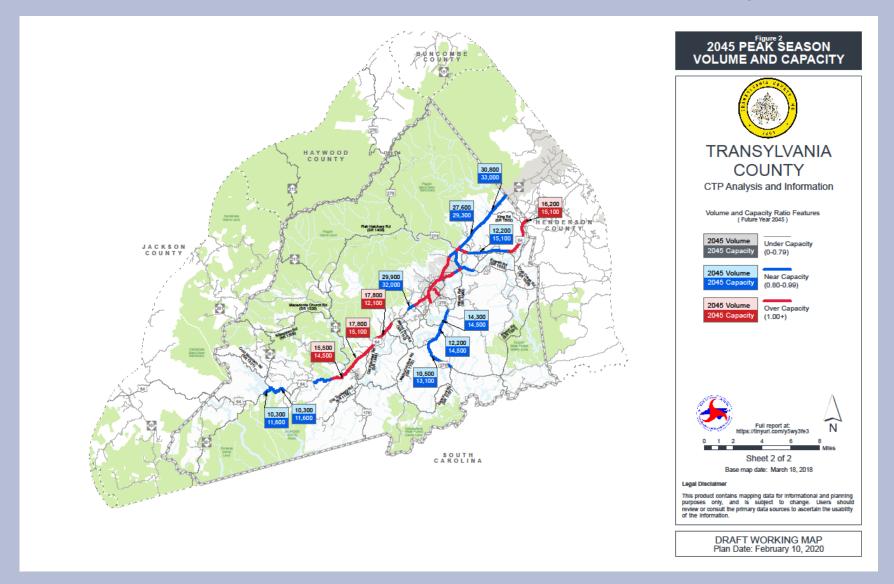


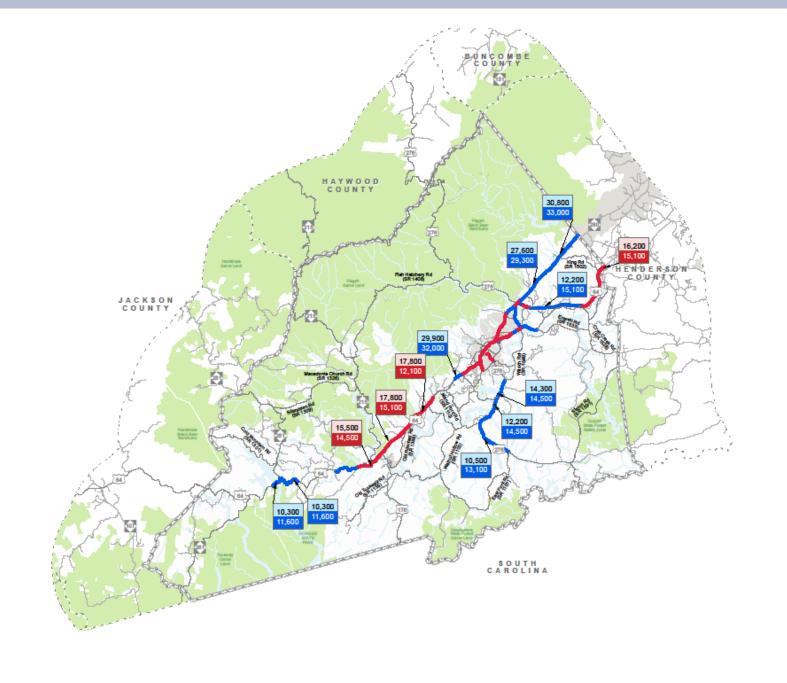


Agenda

- 3:00 PM Welcome and Introductions
- 3:05 PM Traffic Count Data Wrap-up
- 3:20 PM Division 14 Staff, Modernization Project Description
- 3:35 PM Highway Identified Needs Wrap-up
- 3:50 PM Bike Plan Presentation
- 4:15 PM Complete Streets
- 4:25 PM Next meeting Date?
- 4:30 PM Wrap-Up

Traffic Count Volume to Capacity Wrap-up





2045 PEAK SEASON VOLUME AND CAPACITY



TRANSYLVANIA COUNTY

CTP Analysis and Information

Volume and Capacity Ratio Features (Future Year 2045)

2045 Volume 2045 Capacity

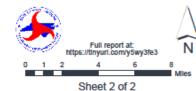
Under Capacity (0-0.79)

2045 Volume 2045 Capacity

Near Capacity (0.80-0.99)

2045 Volume 2045 Capacity

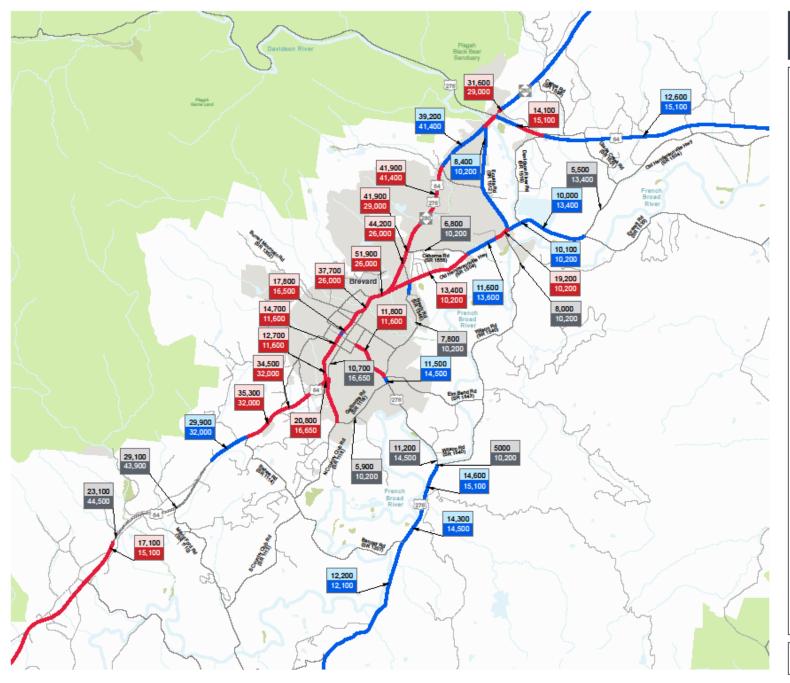
Over Capacity (1.00+)



Base map date: March 18, 2018

Legal Disclaimer

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2045 PEAK SEASON VOLUME AND CAPACITY



TRANSYLVANIA COUNTY

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Over Capacity (1.00+)

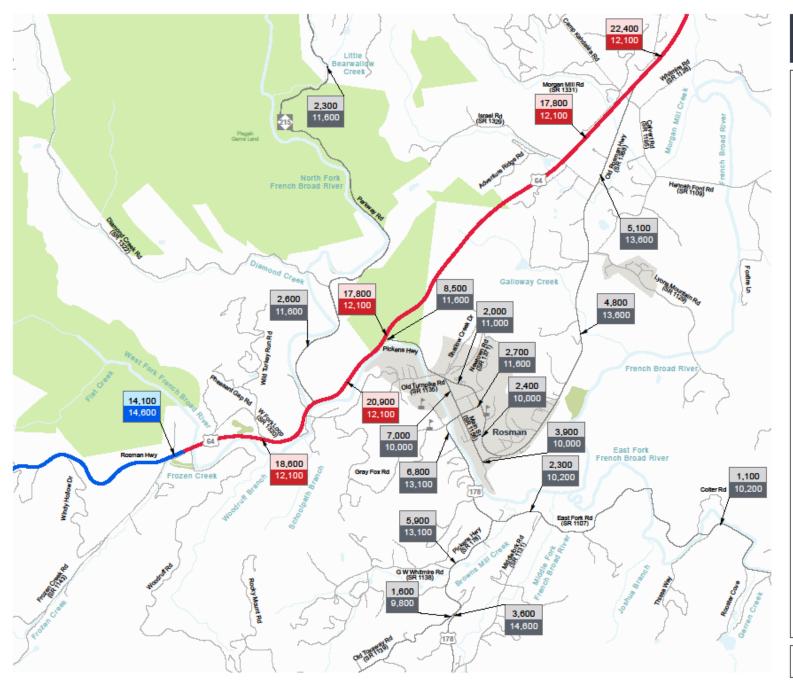


Sheet 2 of 2

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2045 PEAK SEASON VOLUME AND CAPACITY



TRANSYLVANIA COUNTY

CTP Analysis and Information

Volume and Capacity Ratio Features (Future Year 2045)

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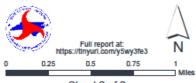
Under Capacity (0-0.79)

2045 Volume 2045 Capacity

Near Capacity (0.80-0.99)

2045 Volume 2045 Capacity

Over Capacity (1.00+)



Sheet 2 of 2 Base map date: March 18, 2018

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NORTH CAROLINA

Department of Transportation



















Modernization – What's Included? 3R Guidelines. Wait, What?

Steve Williams
DPE, NCDOT Division 14

February, 2020

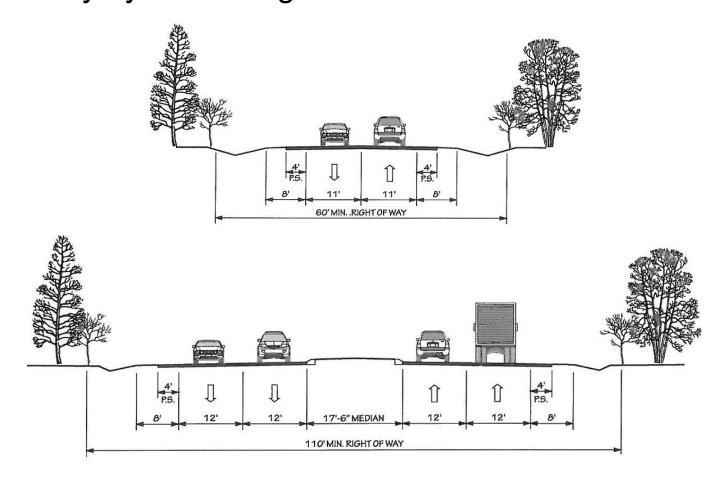
Modernization

Two Specific Improvement Types (SIT):

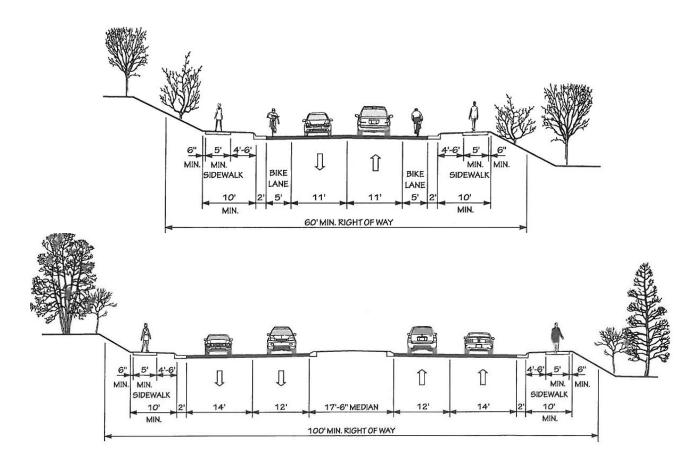
SIT 16 – Modernize Roadway (segment) – Improving a roadway to current design standards primarily by increasing the lane and/or shoulder width. Could also include improving the horizontal or vertical geometry. Could also include adding turn lanes at intersections to help improve mobility on the through route.

SIT 17 – Upgrade Freeway to Interstate Standards (segment) – Improving an existing freeway to interstate design standards primarily by increasing shoulder width and/or bridge clearances.

"Improving a roadway to current design standards primarily by increasing the land and/or shoulder width."



What other facilities can be included?



Bike Facilities – Bike Lane, Shared Use Lane, etc.

Pedestrian Facilities – Sidewalks or Multi Use Paths

ncdot.gov

Notes:

- Modernization is a highway specific improvement type, so the primary benefit (purpose-need) of the project must be benefiting the vehicle user.
- Modernization projects are designed to fix lane width, shoulder width, vertical/horizontal curve concerns, and other userexperience issues.
- If bike-ped accommodations are "warranted" and meet the requirements of the Complete Streets policy (as laid out in the Implementation Guidelines), then they may be included in the project scope.
- Project scoring does not take into consideration the bike-ped deficiencies.

3R Guidelines

Resurfacing, Restoration, and Rehabilitation - What's it for?

Allows Design Flexibility to Reduce Impacts to Human and Natural Environment.

The Least Impactful Design Standard

3R Guidelines

- Widen narrow lanes.
- Widen narrow shoulders and Reduce pavement edge drop offs.
- Construct paved shoulders.
- Reconstruct roadway foundations.
- Improve horizontal and vertical alignments.
- Improve sight distance at intersections.
- Improve the vehicle recovery area.
- Restore or replace bridge approach slab. Extend or replace box culverts.
- Improve safety at recorded and potentially hazardous locations.
- Replace bridge structures (under special conditions).
- Install or upgrade signing, signals, and pavement markings.
- Improve traffic operations by adding lanes at intersections, climbing lanes, or continuous lanes for left turns or through movements.

How is Design Changed?

Horizontal Curves - The existing curve design, assuming correct superelevation is provided, corresponds to a speed that is within 10 miles of the posted speed and the crash rate is below statewide averages provided.

Vertical Curves - An existing vertical curve may be retained if the curve's design speed is within 20 mph of the posted speed limit and the design volumes are less than 1,500 ADT.

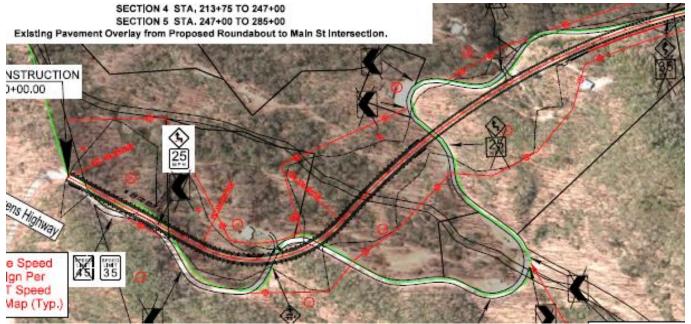
An existing vertical curve may be retained if the curve's design speed is within 10 mph of the posted speed limit and the crash rate is below the statewide average.

Ditches – Greatly reduced ditch cross section by allowing for steeper foreslopes and backslopes.

Vehicle Recovery Area - 55mph = 15' 35mph = 5'

ncdot.gov





Moving Forward...

Identify Highway Deficiencies addressed in CTP

Map ID	TIP No.	<u>Location Description</u>	<u>Status</u>	<u>Туре</u>
11	H170396	US 64 from US 178 to existing 4-lane	Proposed	Address congestion and improve system coherency by widening to 4-lane Divided
12		US 64 from South Broad Street to existing 4-lane.	Proposed	Replace center lane with median.
13	H170251	NC 280 from US 276 to Henderson County	Proposed	Replace center lane with median.
14*		Intersection of US 276 and Parkview Drive	Proposed	Improve Intersection
15*		Intersection of Cascade Lake Road and Crab Creek Road	Proposed	Improve Intersection
16*		NC 215 and US 64	Proposed	Improve Intersection
17	R-5743	Railroad Avenue Extension, partially new location partially existing	Proposed	Improve connectivity for schools and neighborhoods on west side of Brevard.

Existing Projects

Map ID	TIP No.	Location Description	<u>Status</u>	<u>Type</u>
1				Roadway with Multi-Modal
	U-5104	Caldwell Street from Probart Street to US 64	Complete	Components
2				Improve alignment, lane widths,
	R-2409C	US 64, Lake Toxaway to Indian Creek	Complete	shoulders, and climbing lanes
3		Davidson River Village Connector from US-64	Under	New Location Roadway with Multi-
	R-5605	to US-276/US-64 in Pisgah Forest	Construction	Modal Components
4*				
	R-5799	Pisgah Forest Intersection	Under Design	Intersection/Bike and Pedestrian
5	D 5000			
	R-5800	Asheville Highway, US 276	Under Design	Access Management
6				Improve alignment, lane widths,
	R-5763	Wilson Road	Under Design	and shoulders
7				3 lane cross section with bike
/	R-5865	US 276 in Pisgah Forest	Under Design	facilities
8				Bike and Pedestrian Bridge across
0	EB-5858	Davidson River Pedestrian Bridge	Under Design	Davidson River near Pisgah Forest
0*		Rosman Highway, North Country Club, Caldwell		
9*	R-5882	Street	In Draft STIP	Intersection Improvements
40				Improve alignment, lane widths,
10	R-5919	US 178, Rosman	In Draft STIP	and shoulders

Proposed Hwy Projects

Map ID	TIP No.	Location Description	<u>Status</u>	<u>Type</u>
11	H170396	US 64 from US 178 to existing 4-lane	Proposed	Address congestion and improve system coherency by widening to 4-lane Divided
12		US 64 from South Broad Street to existing 4-lane.	Proposed	Replace center lane with median.
13	H170251	NC 280 from US 276 to Henderson County	Proposed	Replace center lane with median.
14*		Intersection of US 276 and Parkview Drive	Proposed	Improve Intersection
15*		Intersection of Cascade Lake Road and Crab Creek Road	Proposed	Improve Intersection
16*		NC 215 and US 64	Proposed	Improve Intersection
17	R-5743	Railroad Avenue Extension, partially new location partially existing	Proposed	Improve connectivity for schools and neighborhoods on west side of Brevard.

^{*} Point projects marked on maps with a triangle (intersections), square (interchanges), or circle (bridges).

Workgroup Identified Hwy Deficiency Projects

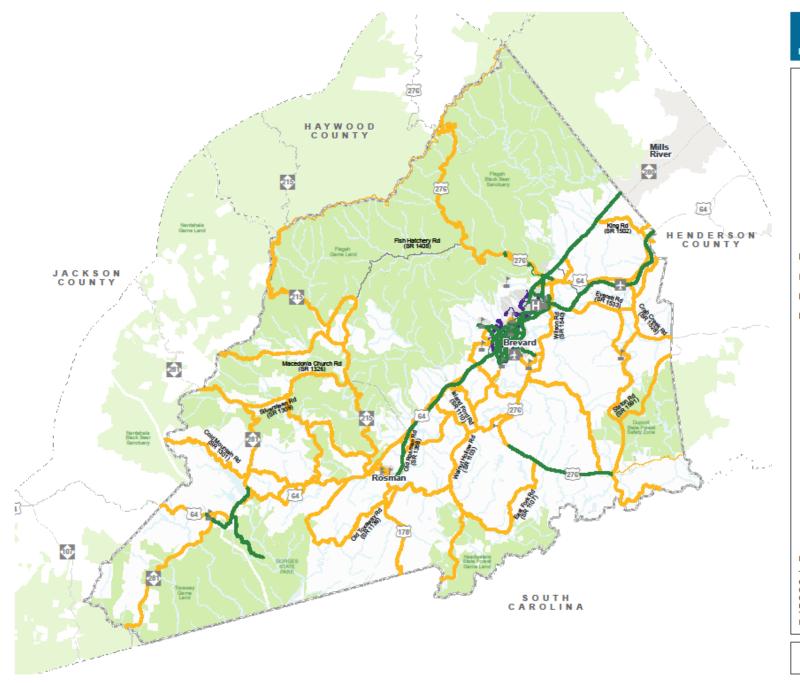
Map ID	TIP No.	<u>Location Description</u>	<u>Type</u>	<u>Identified Purpose</u>
		US 64 (N Broad Street) from N Caldwell Street to Old		Address anticipated 2045 capacity
		Henderson Highway (SR 1504)	Congestion	deficiency
		US 176 from Middlefork Road (SR 1133) to South		Improve alignment, lane widths, and
		Carolina	Modernization	shoulders to current design standards
				Improve alignment, lane widths, and
		US 276 from Wilson Road (SR 1540) to South Carolina	Modernization	shoulders to current design standards
		US 276 from Avery Creek Trail Head to Fish Hatchery		Improve alignment, lane widths, and
		Road (SR 1408)	Modernization	shoulders to current design standards
				Improve alignment, lane widths, and
		US 276 from Gallimore Road (SR 1118) to Wilson Road	Modernization	shoulders to current design standards.
		(SR 1504)	& Resiliency	Improve Resiliency to flooding
				Improve alignment, lane widths, and
		NC 215 from US 64 to Macedonia Church Road (SR 1326)	Modernization	shoulders to current design standards
				Improve alignment, lane widths, and
		NC 281 from US 64 to Cold Mountain Rd	Modernization	shoulders to current design standards
*		Becky Mountain Road (SR 1538) at US 276	Resiliency	Improve Resiliency to Flooding

				Improve alignment, lane widths, and
		Carolina Avenue from US 64 to existing 20' crossection	Modernization	shoulders to current design standards
*		Cascade Lakes Road (SR 1536) at Crab Creek	Resiliency	Improve Resiliency to Flooding
		Country Club Road (SR 1116 & SR 1115) from Gallimore		Improve alignment, lane widths, and
		Road (SR 1118) to Island Ford Road (SR 1110)	Modernization	shoulders to current design standards
				Improve alignment, lane widths, and
		Crab Creek Road (SR 1528) from US 64 to Henderson	Modernization	shoulders to current design standards.
	H111128	County - Dupont Road (SR 1259)	& Resiliency	Improve Resiliency to flooding
		East Fork Road (SR 1107) from US 178 to Walnut Hollow		Improve alignment, lane widths, and
		Road (SR 1103)	Modernization	shoulders to current design standards
		Ecusta Road (SR 1512) from US 64 to Old Henderson		Improve alignment, lane widths, and
	H150561	Highway (1504)	Modernization	shoulders to current design standards
				Improve alignment, lane widths, and
		Elm Bend Road (SR 1543) from US 276 to Wilson Road	Modernization	shoulders to current design standards.
		(SR 1504)	& Resiliency	Improve Resiliency to flooding
		Everett Road (SR 1533) from Old Henderson Highway		Improve alignment, lane widths, and
		(1504) to Crab Creek Road (SR 1528)	Modernization	shoulders to current design standards

			-
	French Broad Street (SR 1544) from US 64 to Neely Road		Improve alignment, lane widths, and
	(SR 1546)	Modernization	shoulders to current design standards
	Gallimore Road (SR 1118) from S 276 to N Country Club		Improve alignment, lane widths, and
	Road (SR 1116)	Modernization	shoulders to current design standards
	Hanna Ford Road (SR 1127) at Limekiln Branch of the		
*	French Broad River	Resiliency	Improve Resiliency to Flooding
*	Intersection of US 276 and Elm Bend Road (SR 1543)	Safety	Improve Aliegnment of Intersection
			Improve alignment, lane widths, and
		Modernization	shoulders to current design standards.
	Island Ford Road (SR 1110) from US 64 to US 276	& Resiliency	Improve Resiliency to flooding
			Improve alignment, lane widths, and
	King Road (SR 1502) from US 64 to NC 280	Modernization	shoulders to current design standards
	Main Street (SR 1156) from US 178 to Old Rosman Road		
	(SR 1388)	Resiliency	Improve Resiliency to Flooding

Transylvania County Bike Plan





Proposals that address identified needs through 2045



Comprehensive Transportation Plan

Bicycle and Pedestrian Features



Other Features

Studied Roads

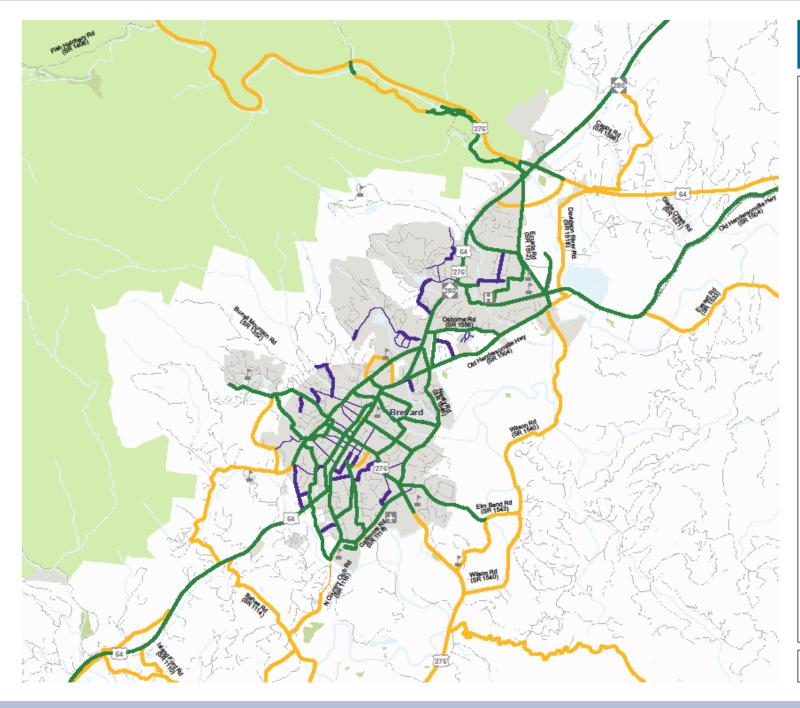


Sheet 4 of 4

Base map date: March 18, 2018

Legal Disclaimer

These concepts will need additional analysis to meet state and federal environmental regulations, to determine final locations and designs, and to be funded for implementation. Local zoning or subdivision ordinances may require the dedication of right of way based on the concepts shown on the Comprehensive Transportation Plan and local collector street plans, based on N.C.G.S. § 136-66.2 and § 136-66.10.



Proposals that address identified needs through 2045



TRANSYLVANIA COUNTY

Comprehensive Transportation Plan

Bicycle and Pedestrian Features

	Proposal ID#	Existing	Proposed
Bicycle			
Pedestrian			
Bicycle and Pedestrian			
Bicycle and Pedestrian Bridge	0	0	0

Other Features

Studied Roads





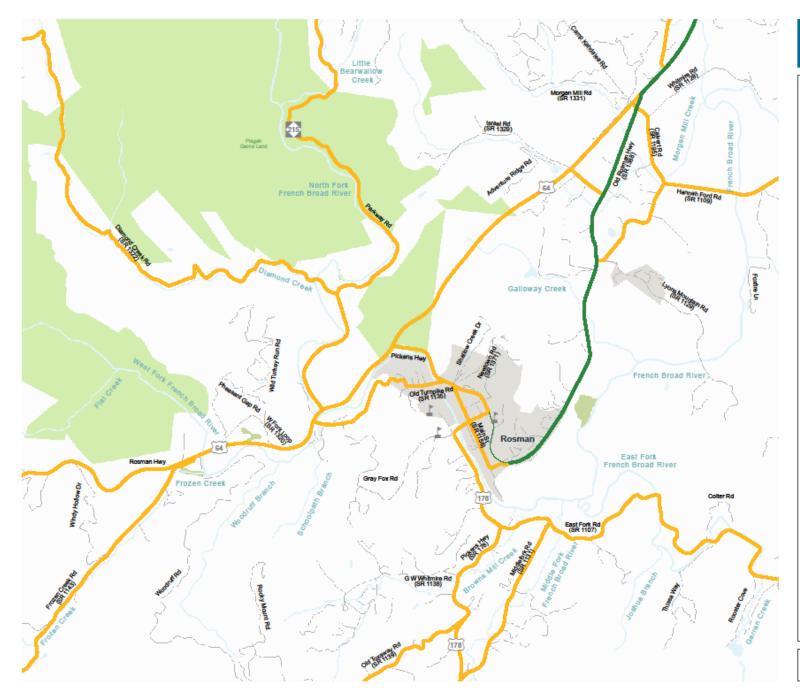
Full report at: http://tinyurl.com/y5wy3fe3



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Proposals that address identified needs through 2045



Comprehensive Transportation Plan

Bicycle and Pedestrian Features

Proposal ID # Existing Proposed
Bicycle
Pedestrian
Bicycle and Pedestrian Dicycle Dicycle and Pedestrian Dicycle Dicycle and Pedestrian Dicycle Dicy

Studied Roads





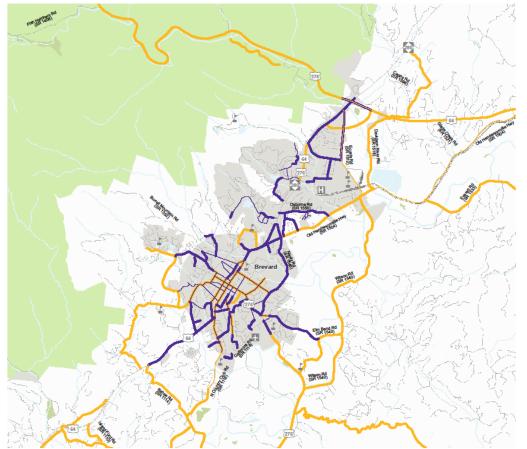
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Comprehensive Transportation Plan

Bicycle and Pedestrian Features

Proposal ID# Existing Proposed Bicycle Bicycle and Pedestrian Bioycle and Pedestrian Bridge

Other Features

----- Studied Roads



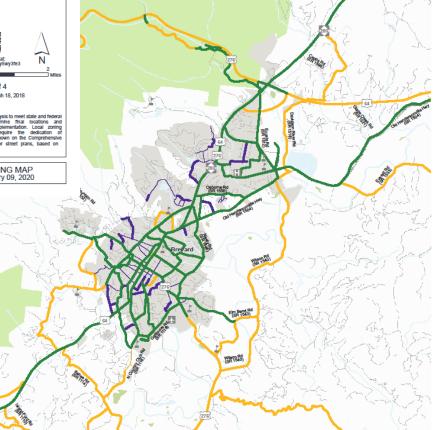


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DRAFT WORKING MAP Plan Date: February 09, 2020



BICYCLE / PEDESTRIAN RECOMMENDATIONS



Comprehensive Transportation Plan

Bicycle and Pedestrian Features			
	Proposal ID	# Existing	Proposed
Bicycle			
Pedestrian			
Bicycle and Pedestrian			
Bicycle and Pedestrian Bridge	0	0	0
Other Fe	atures Studied Ro	ads	





Sheet 4 of 4

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NORTH CAROLINA

Department of Transportation



















Complete Streets 2.0

Vicki L. Eastland, Land of Sky RPO

February 11th, 2020

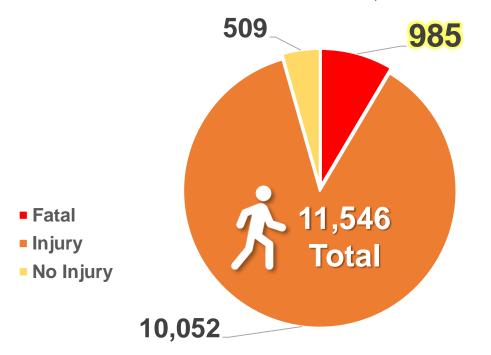
Complete Streets Policy – some highlights

- NCDOT is committed to providing an efficient multi-modal transportation network in North Carolina such that the access, mobility, and safety needs of motorists, transit users, bicyclists, and pedestrians of all ages and abilities are safely accommodated.
- This policy requires NCDOT planners and designers consider and incorporate multimodal facilities in the design and improvement of all appropriate transportation projects in North Carolina.
- The Department is committed to collaborate with cities, towns, and communities to ensure pedestrian, bicycle, transit and evolving transportation technology options are included as an integral part of their total transportation vision.



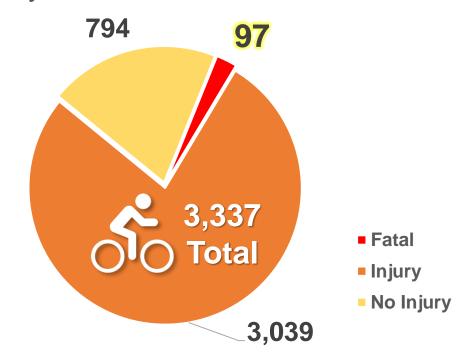
Why? Improve Vulnerable Road User Outcomes

Pedestrian Crashes, 2014-2018



NC 7th highest total pedestrian fatalities by state

Bicycle Crashes, 2014-2018

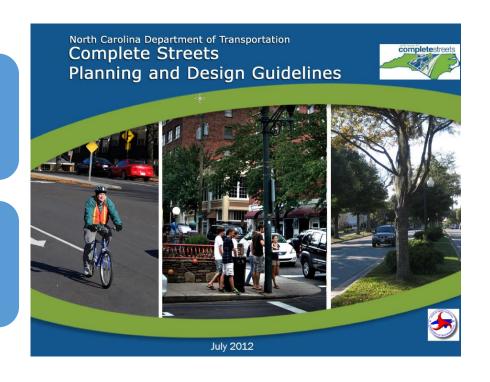


NC 8th highest rate of bicycle fatalities per capita

Complete Streets – Old

Complete Streets Policy (July 2009)

Complete Streets Planning and Design Guidelines (July 2012)





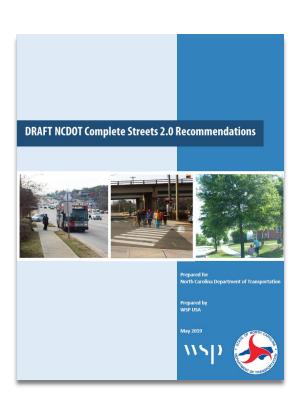
Complete Streets - New

NCDOT Complete Streets 2.0 Recommendations – Action Plan

Complete Streets Policy (August 8, 2019)

Complete Streets Implementation Guide

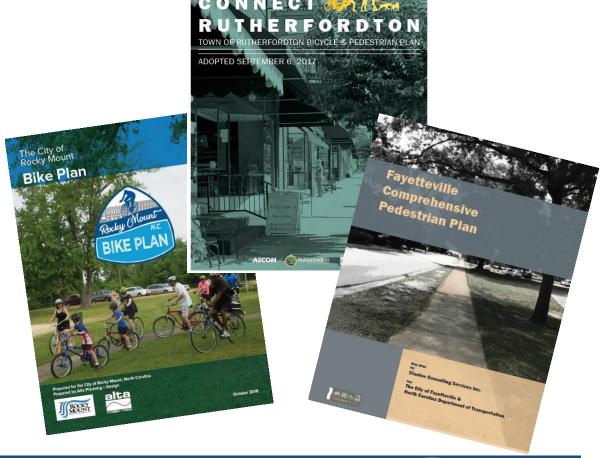
Frequently Asked Questions (FAQs)





Planning and Project Development

- Project in adopted plan
- Project Scoping
- ATLAS Workbench
- Bridge replacements/refurbishments
- Equal or better performance of a facility





Complete Streets Project Sheet

- Comprehensive Transportation Plans
- Strategic Prioritization 6.0
- ATLAS

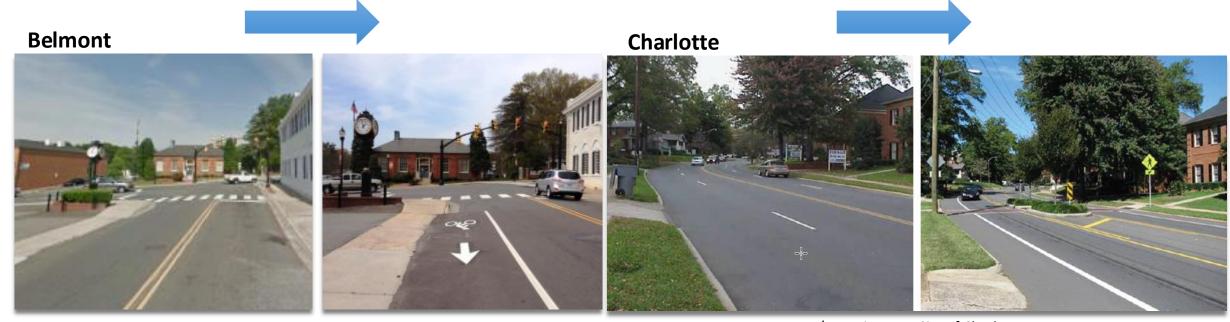
Exceptions to Policy

- Unique site constraints
- Distance from existing/planned facilities
- Bike/Peds prohibited
- No existing/planned transit service
- Evaluated by Complete Streets Review Team

Mode: Bicycle and Pedastria	plete Streets Project Sheet
SPOT ID:	Note that this sheet does not need to be completed for ferry vessel projects, freight rail infrastructure projects, or aviation projects.
Route/Project Name:	#:
Submitting Organization:	
Date:	Contact Name:
	s pedestrian, bicycle, and public transportation facilities to Facility recommendations will vary depending on a lities to be included will be made in Project Development. Note which facilities are being evaluated as part of the cilities for a particular mode will not be evaluated, check Bicycle facilities to be evaluated: Multi-use path or sidepath* Protected bike lane Striped bike lane (buffered or standard) Marked shoulder with supplemental pavement markings Other element(s):
Pedestrian facilities will NOT be evaluated because (at least one): Location is greater than one mile from any existing or planned pedestrian facility, residential or commercial land use, school, or public transit stop. Location has unique site constraints. Pedestrian uses are prohibited. Additional reasons(s) or notes:	Bicycle facilities will NOT be evaluated because (at least one): Location has unique site constraints. Bicycle uses are prohibited. Additional reasons(s) or notes:

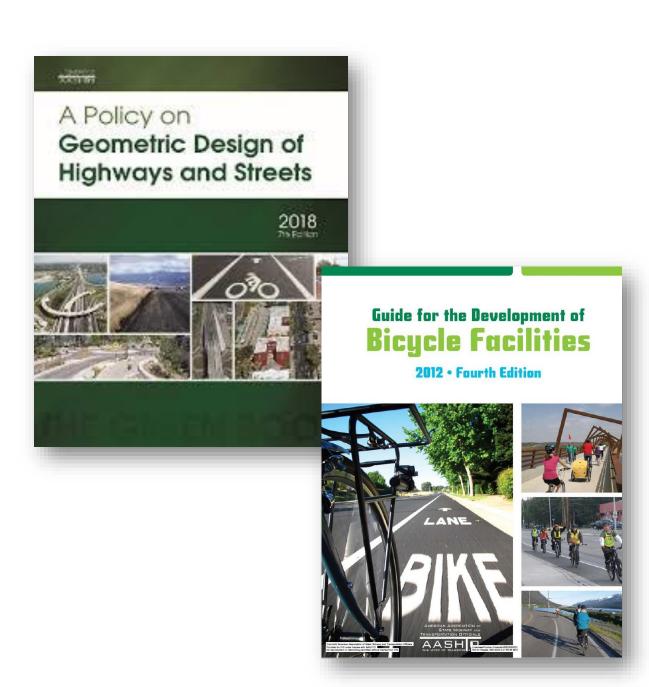
Resurfacing / Maintenance

- Coordination between NCDOT's Operations Program Management Unit and Integrated Mobility Division
- Roadway resurfacing lists sent to local governments



Map data © 2014, Google, North Carolina

FHWA / Ken Tippette, City of Charlotte



Design Guidance

- NCDOT Roadway Design Manual & cross-sections
- American Association of State Highway Transportation Officials (AASHTO) guides
- FHWA Guides

Cost Share



Pedestrian Facility

> Bicycle **Facility**

Side Path

Greenway Crossing

Bus Pull Out

Bus Stop (pad only) In Plan

NCDOT pays full cost

Not in Plan, but Need Identified

• Cost Share*

Betterment

Local pays full cost

*Exception – NCDOT pays full cost for on-road bicycle facility



NCDOT

Cost Share Formula / Betterment

Cost Share Formula				
Population	NCDOT / Local Share			
• > 100,000	80% / 20%			
• 50,000 to 100,000	85% / 15%			
• 10,000 to 50,000	90% / 10%			
• < 10,000	95% / 5%			

Betterment

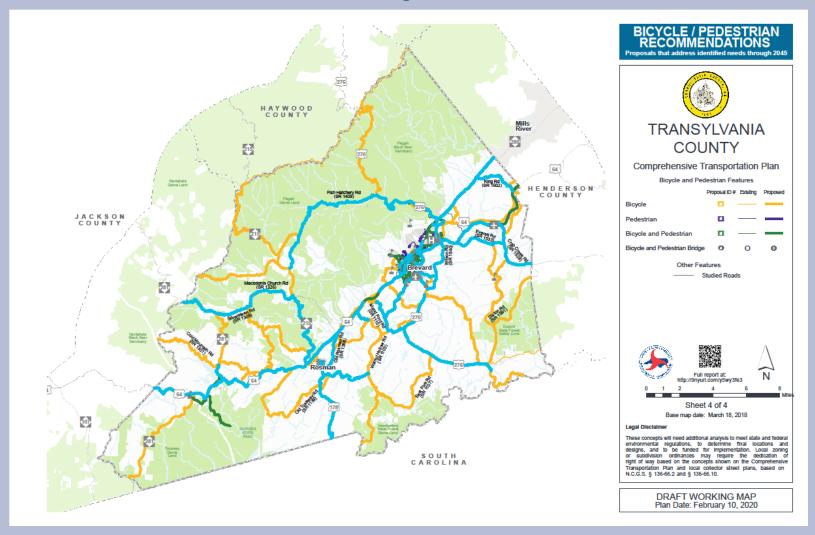
- A requested improvement that exceeds the recommendations from a plan and/or exceeds need identified in the project development process
- Aesthetic materials and treatments
- Landscaping in excess of standard treatments
- Lighting in excess of standard treatments

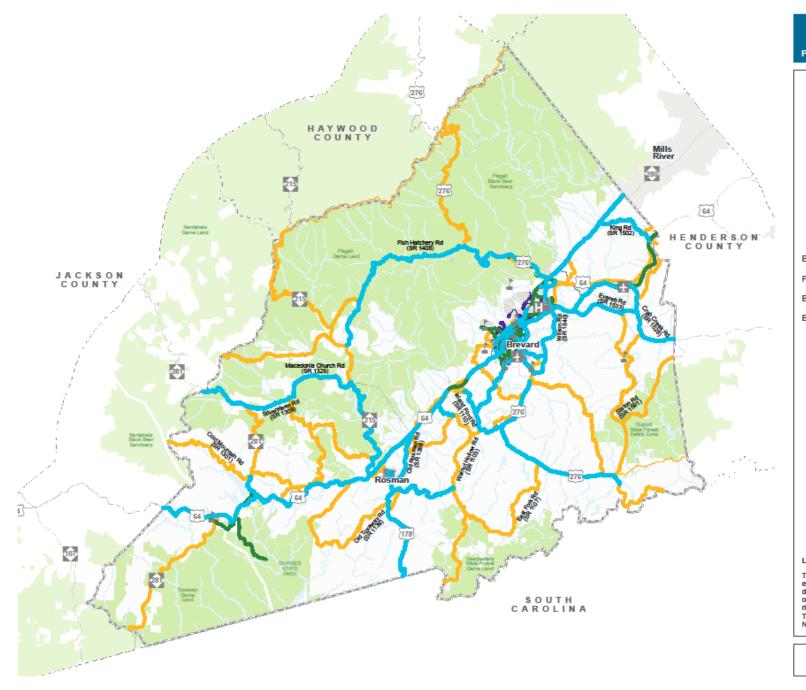
Effective Date

 All STIP projects without a final environmental document are subject to the new policy



Complete Streets Maps





Proposals that address identified needs through 2045



Comprehensive Transportation Plan

Bicycle and Pedestrian Features

Proposal ID # Existing Proposed

Bicycle
Pedestrian

Bicycle and Pedestrian Bridge

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O

O

Other Features

Studied Roads

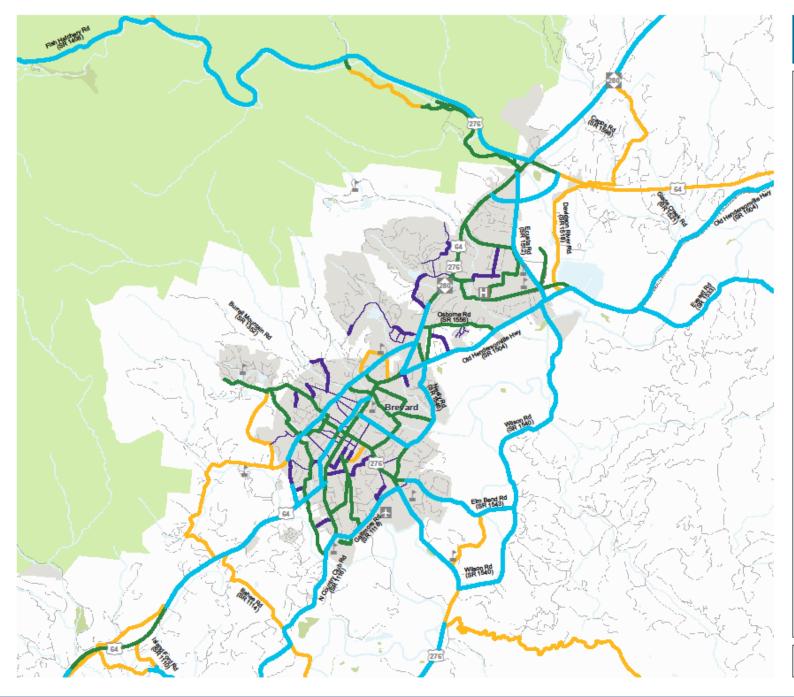


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Proposals that address identified needs through 2045



Comprehensive Transportation Plan

Bicycle and Pedestrian Features

Proposal ID# Existing Proposed
Bicycle
Pedestrian
Bicycle and Pedestrian
Bicycle and Pedestrian Bridge
Other Features
Studied Roads





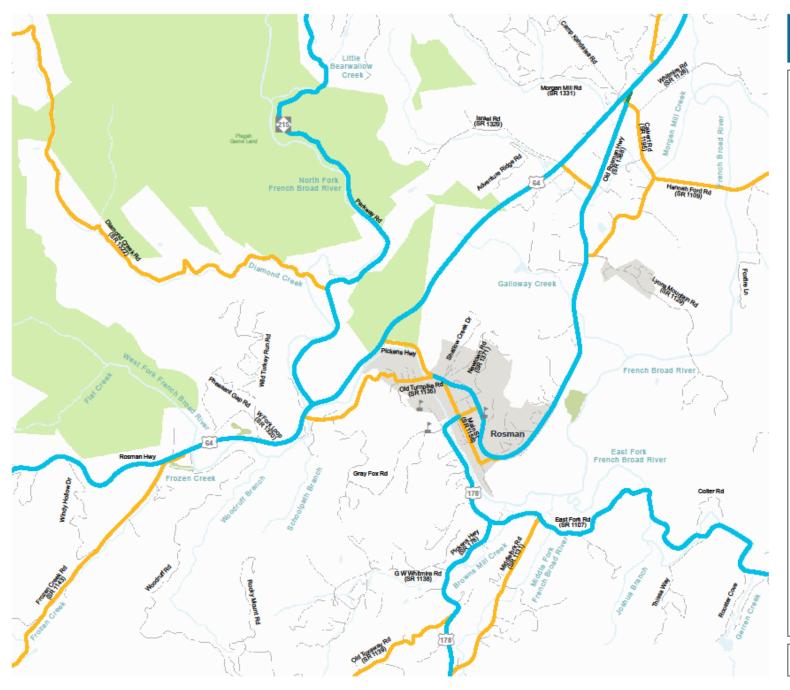
Full report at: http://tinyuri.com/y5wy3fe3



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Proposals that address identified needs through 2045



Comprehensive Transportation Plan

Bicycle and Pedestrian Features

Proposal ID # Existing Proposed
Bicycle
Pedestrian
Bicycle and Pedestrian
Bicycle and Pedestrian Bridge
Other Features
Studied Roads





Full report at: http://tinyuri.com/y5wy3fe3 0.5



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Future Meetings

- Approximately Monthly
- 3:00 PM 4:30 PM
- Next Meeting March 10th, 2020
- Board of Elections (unless otherwise noted)

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1 2 3 4 5
6 7 8 9 10 11 12
13 14 15 16 17 18 19
20 21 22 23 24 25 26
27 28 29 30 31
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Contact info for your team

- Vicki Eastland, Land of Sky RPO, vicki.eastland@landofsky.org 828-251-6622
- Daniel Sellers, NCDOT TPD, dcsellers1@ncdot.gov 919-707-0978
- Steve Williams, NCDOT Division 14, <u>sjwilliams@ncdot.gov</u> 828-586-2141
- Troy Wilson, NCDOT Division 14, tswilson@ncdot.gov 828-586-2141
- Lonnie Watkins, NCDOT Division 14, lnwatknis@ncdot.gov 828-891-7911

